

PATENT
Docket GE120338

In the Claims

Please cancel claim 12, without prejudice; enter additional claim 28; and amend claims 1-4, 11, 13, 14, and 17 as follows:

1. (currently amended) A turbine shroud comprising:
an arcuate substrate wall having front and back surface, forward and aft hooks extending from said back surface, and a plurality of aperture inlets extending therethrough;
a thermal barrier coating bonded to said wall front surface; and
a network of flow channels extending parallel between said wall and coating for carrying an air coolant therethrough, and including an inlet header disposed in flow communication with said inlets, and an outlet header spaced from said inlet header; and
a plurality of aperture outlets extending through said coating in flow communication with said outlet header for discharging said coolant.
2. (currently amended) A shroud according to claim 1 ~~further comprising a plurality of aperture outlets extending through said coating in flow communication with said channels for discharging said coolant~~ wherein said inlets are sized to meter flow to said flow channels.
3. (currently amended) A shroud according to claim 2 further comprising a bond coat laminated between said substrate wall and coating, and atop said flow channels for sealing said flow channels to discharge said coolant solely through said outlets.
4. (currently amended) A shroud according to claim 3 wherein said network further comprises ~~inlet and outlet~~

PATENT
Docket GE120338

~~headers~~ and a row of cross channels extending therebetween
between said inlet and outlet headers.

5. (original) A shroud according to claim 4 wherein said cross channels extend transversely between said inlet and outlet headers.

6. (original) A shroud according to claim 5 wherein said cross channels are straight from said inlet header to said outlet header.

7. (original) A shroud according to claim 5 wherein said cross channels are arranged in multiple serpentine legs between said inlet and outlet headers.

8. (original) A shroud according to claim 4 wherein said cross channels extend parallel with said inlet and outlet headers in multiple serpentine legs therebetween.

9. (original) A shroud according to claim 4 wherein said channels are disposed in said substrate below said bond coat.

10. (original) A shroud according to claim 4 wherein said channels are disposed in said bond coat below said coating and atop said substrate.

11. (currently amended) A gas turbine engine wall comprising:

a metal substrate having front and back surfaces, and an aperture inlet extending therethrough;

a thermal barrier coating bonded atop said front surface; and

a network of flow channels laminated between said substrate and coating for carrying an air coolant therebetween, and including an inlet header disposed in flow

PATENT
Docket GE120338

communication with said inlet, and an outlet header spaced from said inlet header; and

a plurality of aperture outlets extending through said coating in flow communication with said outlet header for discharging said coolant.

12. (canceled)

13. (currently amended) A wall according to claim ~~12~~ 11 wherein said channels extend parallel between said substrate and coating, and said inlet and outlets extend transversely therethrough.

14. (currently amended) A wall according to claim 13 further comprising a bond coat laminated between said substrate and coating, and atop said flow channels for sealing said flow channels to discharge said coolant solely through said outlets.

15. (original) A wall according to claim 14 wherein said channels are disposed in said substrate below said bond coat.

16. (original) A wall according to claim 14 wherein said channels are disposed in said bond coat below said coating and atop said substrate.

17. (currently amended) A wall according to claim 14 wherein said network further comprises ~~inlet and outlet headers and~~ a row of cross channels extending ~~therebetween~~ between said inlet and outlet headers.

18. (original) A wall according to claim 17 wherein said cross channels extend transversely between said inlet and outlet headers.

PATENT
Docket GE120338

19. (original) A wall according to claim 18 wherein said cross channels are straight from said inlet header to said outlet header.

20. (original) A wall according to claim 18 wherein said cross channels are arranged in multiple serpentine legs between said inlet and outlet headers.

21. (original) A wall according to claim 17 wherein said cross channels extend parallel with said inlet and outlet headers.

22. (original) A wall according to claim 21 wherein said cross channels are arranged in multiple serpentine legs between said inlet and outlet headers.

23. (original) A wall according to claim 17 comprising an arcuate turbine shroud having forward and aft hooks extending outwardly from said substrate back surface for supporting said shroud above a row of rotor blades in a gas turbine engine.

24. (original) A turbine shroud according to claim 23 wherein said inlet header is disposed adjacent said aft hook, and said outlet header disposed adjacent said forward hook.

25. (original) A turbine shroud all according to claim 23 wherein said inlet header is disposed adjacent said forward hook, and said outlet header is disposed adjacent said aft hook.

26. (original) A method of making said wall according to claim 17 comprising:

forming said channels in said substrate front surface;
masking said channels;

PATENT
Docket: GE120338

applying said bond coat over said substrate front surface and masked channels;

applying said thermal barrier coating over said bond coat;

removing said mask from said channels; and

drilling said outlets through said coating and bond coat in flow communication with said outlet header.

27. (original) A method of making said wall according to claim 17 comprising:

masking said substrate front surface at a plurality of locations corresponding with said flow channels;

applying said bond coat over said substrate front surface and said masked locations;

applying said thermal barrier coating over said bond coat;

removing said mask from said bond coat; and

drilling said outlets through said coating and bond coat in flow communication with said outlet header.

28. (new) A turbine shroud according to claim 23 further comprising a row of film cooling holes extending through said substrate and thermal barrier coating at said forward hook for discharging another portion of said coolant from said back surface for film cooling said thermal barrier coating.